

23 October 2013

John Traux Yellow Jacket Drilling Service 3922 E University Dr. Suite#1 Phoenix, AZ 85034

RE: New source

Laboratory Work Order No.: 3101744

Legend Technical Services of Arizona, Inc. is pleased to provide the enclosed analytical results for the aforementioned project. These results relate only to the items tested. This cover letter and the accompanying pages represent the full report for these analyses and should only be reproduced in full. Samples for this project were received by the laboratory on 10/19/13 11:13.

The samples were processed in accordance with the Chain of Custody document and the results presented relate only to the samples tested. The Chain of Custody is considered part of this report.

All samples will be retained by LEGEND for 30 days from the date of this report and then discarded unless other arrangements are made.

This entire report was reviewed and approved for release by the undersigned. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

LEGEND TECHNICAL SERVICES OF ARIZONA, INC.

DRAFT REPORT
DATA SUBJECT TO CHANGE
(602) 324-6100

This laboratory report is confidential and is intended for the sole use of LEGEND and it's client.

Phoenix, AZ 85034

Project: New source

Project Number: New source 13-0111 AZ 10/18/13

Project Manager: John Traux

Reported: 10/23/13 11:39

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Туре	Date Sampled	Date Received
DRAFT: Z 1,775 (Hamp Well #3)	3101744-01	Drinking Water	Grab	10/18/13 23:00	10/19/13 11:13
DRAFT: Travel Blank	3101744-02	DI Water	Grab	10/18/13 23:00	10/19/13 11:13

Sample Condition Upon Receipt:

Temperature: 6.00 C

All samples were received in acceptable condition unless noted otherwise in the case

narrative.

Case Narrative:

Holding Times: All holding times were met unless otherwise qualified.

QA/QC Criteria: All analyses met method requirements unless otherwise qualified. Certifications: AZ(PHX)0004, AZ(TUC)OOO4, AIHA#102982, CDC ELITE Member.

Accreditation is applicable only to the test methods specified on each scope of accreditation held by LEGEND.

Comments: There were no problems encountered during the processing of the samples, unless otherwise noted. All samples were analyzed on a "wet" basis unless designated as "dry weight".

Client notified of the Total Coliform result via email by the micro analyst on 10/21. LP Notified client via email on 10/21/13 that the 48-hour short hold parameters would be analyzed past hold-time due to being received during weekend hours (Asbestos, Color, Odor, NO2). Normally, the NO2 can be analyzed during the weekend hours, but due to the matrix of the sample, it required significant more time for analysis.

Sample was turbid resulting in apparent color. In order to attempt to record the true color, the sample was centrifuged at 4500 rpm for 10 minutes. This resulted in a pellet at the bottom of the sample. The supernatant was poured off, but the sample remained very turbid. This centrifugation process was run again, resulting in another smaller pellet. The supernatant was again poured off and the true color was taken from this.

CL 10/22/13

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Phoenix, AZ 85034

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11:13									
Analyte	Result	PQL	Units	Dilutio	on Batch	Prepared	Analyzed	Method	Notes
	Legend	Technica	I Service	s of A	rizona, Inc	**		***************************************	
DRAFT: Microbiology									
Total Coliforms, MPN	>23	1.1	MPN/100 mL	1	B3J0632	10/19/13 11:35	10/19/13 11:35	SM 9221B	
DRAFT: Total Metals									
Antimony	<0.0050	0.0050	mg/L	10	B3J0604	10/21/13 16:40	10/22/13 16:46	EPA 200.8	D1
Arsenic	0.0111	0.0100	mg/L	10	B3J0604	10/21/13 16:40	10/22/13 16:46	EPA 200.8	D1
Cadmium	<0.0010	0.0010	mg/L	10	B3J0604	10/21/13 16:40	10/22/13 16:46	EPA 200.8	D1
_ead	0.0216	0.0100	mg/L	10	B3J0604	10/21/13 16:40	10/22/13 16:46	EPA 200.8	D1
Selenium	<0.0200	0.0200	mg/L	10	B3J0604	10/21/13 16:40	10/22/13 16:46	EPA 200.8	D1
Silver	<0.0010	0.0010	mg/L	10	B3J0604	10/21/13 16:40	10/22/13 16:46	EPA 200.8	D1
Гhallium	<0.0050	0.0050	mg/L	10	B3J0604	10/21/13 16:40	10/22/13 16:46	EPA 200.8	D1
DRAFT: Inorganic Chemistry									
Color	200	1	Color Units	1	B3J0592	10/21/13 10:30	10/21/13 10:30	SM 2120 B	H3, N1
Nitrate as N	<0.10	0.10	mg/L	1	[CALC]	10/21/13 16:47	10/21/13 16:47	Calculation	
Nitrite as N	<0.10	0.10	mg/L	1	B3J0625	10/21/13 16:47	10/21/13 16:47	SM 4500 NO2 B	H3
Threshold Odor Number	<1	1	T.O.N.	1	B3J0593	10/21/13 10:30	10/21/13 10:30	EPA 140.1	H3
θΗ	9.5		pH Units	1	B3J0602	10/21/13 08:30	10/21/13 08:30	SM 4500H B	H5
- emperature	15.2		°C	1	B3J0602	10/21/13 08:30	10/21/13 08:30	pH Temperature	H5

Phoenix, AZ 85034

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DRAFT: Total Metals - Quality Control Legend Technical Services of Arizona, Inc.

		Reporting		Spike	Source		%REC		RPD	
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes
Batch B3J0604 - EPA 200.8										
Blank (B3J0604-BLK1)				Prepared:	10/21/13 Ar	nalyzed: 10	/22/13			
Antimony	<0.0005	0.0005	mg/L							
Arsenic	<0.0010	0.0010	mg/L							
Cadmium	<0.0001	0.0001	mg/L							
_ead	< 0.0010	0.0010	mg/L							
Selenium	<0.0020	0.0020	mg/L							
Silver	<0.0001	0.0001	mg/L							
hallium	<0.0005	0.0005	mg/L							
.CS (B3J0604-BS1)				Prepared:	10/21/13 Ar	nalyzed: 10	/22/13			
Antimony	0.0276	0.0005	mg/L	0.0250		111	85-115			
Arsenic	0.0255	0.0010	mg/L	0.0250		102	85-115			
Cadmium	0.0264	0.0001	mg/L	0.0250		106	85-115			
_ead	0.0279	0.0010	mg/L	0.0250		112	85-115			
Selenium	0.0254	0.0020	mg/L	0.0250		102	85-115			
Silver	0.0271	0.0001	mg/L	0.0250		108	85-115			
「hallium	0.0267	0.0005	mg/L	0.0250		107	85-115			
CS Dup (B3J0604-BSD1)				Prepared:	10/21/13 Ar	nalyzed: 10	/22/13			
Antimony	0.0271	0.0005	mg/L	0.0250		108	85-115	2	20	
Arsenic	0.0245	0.0010	mg/L	0.0250		98	85-115	4	20	
Cadmium	0.0259	0.0001	mg/L	0.0250		104	85-115	2	20	
.ead	0.0272	0.0010	mg/L	0.0250		109	85-115	2	20	
Selenium	0.0250	0.0020	mg/L	0.0250		100	85-115	2	20	
Silver	0.0263	0.0001	mg/L	0.0250		105	85-115	3	20	
Γhallium	0.0268	0.0005	mg/L	0.0250		107	85-115	0.3	20	
Matrix Spike (B3J0604-MS1)	So	urce: 3101731	-01	Prepared:	10/21/13 Ar	nalyzed: 10	/22/13			
Antimony	0.0283	0.0005	mg/L	0.0250	0.00003	113	70-130			
Arsenic	0.0317	0.0010	mg/L	0.0250	0.0078	95	70-130			
Dadmium	0.0256	0.0001	mg/L	0.0250	<0.0001	102	70-130			
₋ead	0.0266	0.0010	mg/L	0.0250	0.0001	106	70-130			
Selenium	0.0253	0.0020	mg/L	0.0250	0.0019	94	70-130			
Silver	0.0227	0.0001	mg/L	0.0250	<0.0001	91	70-130			
Thallium	0.0246	0.0005	mg/L	0.0250	<0.0005	98	70-130			

DRAFT REPORT

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

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DRAFT: Total Metals - Quality Control Legend Technical Services of Arizona, Inc.

		Reporting		Spike	Source		%REC		RPD	
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes
Batch B3J0604 - EPA 200.8										
Matrix Spike (B3J0604-MS2)	Sou	rce: 3101731	I-09	Prepared:	10/21/13 Ar	nalyzed: 10	/22/13			
Antimony	0.0277	0.0005	mg/L	0.0250	0.00003	111	70-130			
Arsenic	0.0313	0.0010	mg/L	0.0250	0.0064	99	70-130			
Cadmium	0.0252	0.0001	mg/L	0.0250	0.00002	101	70-130			
Lead	0.0265	0.0010	mg/L	0.0250	80000.0	106	70-130			
Selenium	0.0246	0.0020	mg/L	0.0250	8000.0	95	70-130			
Silver	0.0236	0.0001	mg/L	0.0250	<0.0001	95	70-130			
Thallium	0.0247	0.0005	mg/L	0.0250	<0.0005	99	70-130			
Matrix Spike Dup (B3J0604-MSD1)	Sou	rce: 3101731	I-01	Prepared:	10/21/13 Ar	nalyzed: 10.	/22/13			
Antimony	0.0305	0.0005	mg/L	0.0250	0.00003	122	70-130	8	20	
Arsenic	0.0343	0.0010	mg/L	0.0250	0.0078	106	70-130	8	20	
Cadmium	0.0269	0.0001	mg/L	0.0250	<0.0001	108	70-130	5	20	
Lead	0.0284	0.0010	mg/L	0.0250	0.0001	113	70-130	7	20	
Selenium	0.0270	0.0020	mg/L	0.0250	0.0019	100	70-130	6	20	
Silver	0.0256	0.0001	mg/L	0.0250	<0.0001	102	70-130	12	20	
Thallium	0.0263	0.0005	mg/L	0.0250	<0.0005	105	70-130	7	20	
Matrix Spike Dup (B3J0604-MSD2)	Sou	rce: 3101731	I-0 9	Prepared:	10/21/13 Ar	nalyzed: 10.	/22/13			
Antimony	0.0283	0.0005	mg/L	0.0250	0.00003	113	70-130	2	20	
Arsenic	0.0313	0.0010	mg/L	0.0250	0.0064	99	70-130	0.1	20	
Cadmium	0.0256	0.0001	mg/L	0.0250	0.00002	102	70-130	2	20	
Lead	0.0268	0.0010	mg/L	0.0250	80000.0	107	70-130	1	20	
Selenium	0.0255	0.0020	mg/L	0.0250	0.0008	99	70-130	3	20	
Silver	0.0239	0.0001	mg/L	0.0250	<0.0001	96	70-130	1	20	
Thallium	0.0246	0.0005	mg/L	0.0250	<0.0005	98	70-130	0.3	20	

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DRAFT: Inorganic Chemistry - Quality Control Legend Technical Services of Arizona, Inc.

		Reporting		Spike	Source		%REC		RPD	
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes
Batch B3J0592 - NO PREP										
Duplicate (B3J0592-DUP1)	Source	ce: 310174	4-01	Prepared	& Analyzed:	10/21/13				
Color	200	1	Color Unit	s	200			0	20	
Batch B3J0602 - NO PREP										
Duplicate (B3J0602-DUP1)	Sour	ce: 310174	4-01	Prepared	& Analyzed:	10/21/13				
рН	9.5		pH Units		9.5			0	10	Н
Batch B3J0625 - NO PREP		***************************************		***************************************				***************************************		***************************************
Blank (B3J0625-BLK1)				Prepared	& Analyzed:	10/21/13				
Nitrite as N	<0.10	0.10	mg/L							
LCS (B3J0625-BS1)				Prepared	& Analyzed:	10/21/13				
Nitrite as N	0.202	0.10	mg/L	0.200		101	80-120			
LCS Dup (B3J0625-BSD1)	·			Prepared	& Analyzed:	10/21/13				
Nitrite as N	0.202	0.10	mg/L	0.200		101	80-120	0	20	
Matrix Spike (B3J0625-MS1)	Sour	ce: 3101817	7-01	Prepared	& Analyzed:	10/21/13				
Nitrite as N	0.193	0.10	mg/L	0.200	<0.10	96	80-120			
Matrix Spike (B3J0625-MS2)	Sour	ce: 3101837	7-06	Prepared	& Analyzed:	10/21/13				
Nitrite as N	0.193	0.10	mg/L	0.200	<0.10	96	80-120			
Matrix Spike Dup (B3J0625-MSD1)	Sour	ce: 3101817	7-01	Prepared	& Analyzed:	10/21/13				
Nitrite as N	0.191	0.10	mg/L	0.200	<0.10	96	80-120	1	20	

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DRAFT: Inorganic Chemistry - Quality Control Legend Technical Services of Arizona, Inc.

		Reporting		Spike	Source		%REC		RPD	
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes

Batch B3J0625 - NO PREP

Matrix Spike Dup (B3J0625-MSD2)	Sourc	e: 3101837	-06	Prepared	& Analyzed	: 10/21/13				
Nitrite as N	0.195	0.10	mg/L	0.200	<0.10	97	80-120	1	20	

Phoenix, AZ 85034

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Notes and Definitions

N1 See case narrative.

H5 This test is specified to be performed in the field within 15 minutes of sampling; sample was received and analyzed past the

regulatory holding time.

H3 Sample was received and /or anlaysis was requested past holding time.

D1 Sample required dilution due to matrix.

BLK Method Blank

LCS/Dup Laboratory Control Sample/Laboratory Fortified Blank/Duplicate

MS/Dup Matrix Spike/Duplicate

Dry Sample results reported on a dry weight basis

RPD Relative Percent Difference

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T = 1,100 to T = 2,000, every 15 minutes. T = 2,000 to T = 3,000, every 30 minutes.

If the pump is shut off for any reason during the pumping portion of the test, it shall remain shut off for 24 hours and the complete test shall be rerun.

The pump must remain in place until all recovery measurements are completed.

Upon completion of the test, recorded measurements shall be turned over to Project Engineer for analysis.

2.14 WATER QUALITY TESTING

Near the end of the constant-rate test, the Contractor will collect and properly preserve a suite of water samples. The laboratory listed below will provide appropriate sample containers. Analyses for the chemical constituents listed below shall be performed at the Contractor's expense and the results given to the Project Engineer.

Water quality analysis and methods are based on the National Primary Drinking Water Regulations as found in the Code of Federal Regulations (CFR) Title 40 Part 141. A summary of the National Primary Drinking Water Regulations are attached as Appendix E.

The water quality testing laboratory shall be EPA certified. The water quality testing shall be performed by Legend Technical Services, Inc., 17631 North 25th Avenue, Phoenix, AZ 85023, Phone: (602) 324-6100 or approved equal. When contacting Legend Technical Services the Contractor shall request sample containers for a "new source approval" test for groundwater. As the well is a "new source", there is no need to test for disinfectants or disinfection byproducts.

The "new source approval" test from Legend Technical Services shall comply with the most recent version of the National Primary Drinking Water Regulations and shall test for the following general classes of contaminants:

- 1. Microorganisms
- 2. Organic Chemicals
- 3. Inorganic Chemicals
- 4. Radionuclides

CASantistion Facilities Constitions and Associated Association Project Contracts Agreements (EA 11-4211 - Project Manual 1 - Originate (13 Welf2, Special dec

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Project: New source

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The Contractor shall also sample and test for the following secondary parameters to determine water chemistry that may lead to customer complaints or operation and maintenance problems:

- 1. Alkalinity
- 2. Aluminum
- 3. Calcium
- 4. Chloride
- 5. Color
- 6. Copper
- 7. Corrosivity
- 8. Flouride
- 9. Hardness as CaCO3
- 10. Iron
- 11. Magnesium
- 12. Manganese
- 13. Nickel
- 14 Odor
- 15. pH
- 16. Silver
- 17. Sodium
- ir. odelani
- 18. Sulfate
- 19. Total Dissolved Solids (TDS)
- 20. Total Organic Carbon (TOC)
- 21. Ziac
- 22. Silica

Sample analysis (both acquisition and payment) shall be the sole responsibility of the Contractor. The Project Engineer shall be present during water sampling and shall initial the custody seals of the sample containers.

ChiSanitativa Foretica Construitation AZHophesy Hopi Jusanic Mitigation Project/ContractalignscenentalEA 11-12/4 - Project Manual/1 - Originata 13 Well2 Specialist

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Project: New source

Project Number: New source 13-0111 AZ 10/18/13

Project Manager: John Traux

Reported: 10/23/13 11:39

Company: Nell ou	U Jacket 1	W.O. #: 3101699 end of day 10/22 3101453 Orilling Phone: 3101744
Contact: Vern		
Prelim Due Date:		Final Due Date:
Analysis: Arsci	nic Iturbia	d)
Number of Samples:	3+ ?	Date Samples Expected: 10(18 - 10()-1
Matrix:		Expiration Date:
Supervisor Approval	Inorganics:	Specifics:
	Metals#\/ 10	
	Micro:	Specifics:
	SOC:	Specifics:
4	VOC:	Specifics:
	Sub1:	Specifics:
	Sub2:	Specifics:
Comments:		
602-471-07	96	
	: 3t-ć	
COST:	_	Project Manager: Cory
		RUSH Initiator:

Project: New source

Project Number: New source 13-0111 AZ 10/18/13

Project Manager: John Traux

Reported: 10/23/13 11:39

Laboratory Sample ID: CHAIN OF CUSTODY RECORD LEGEND Technical Services, Inc. ∰17631 N. 25th Avenue • Phoenix, AZ 95023 • (602) 324-5100 • Fax (602) 324-6101 ☐ 4585 S. Palo Verde Rd, Ste 423 • Tucson, AZ 85706 • (620) 327-1234 • Fax (520) 327-0518 Please Print Clearly

CLIENT INFORMATION Fax Number of Email Address Varne y Jarilling (5 fritzer shomate OC Rened [] EDD 2 85299 -2 83261 P.O. No. 801 GILBERT 602-453-3252 DRILLING P.0 Box YELLOW JACKET Vern **New Source** 13-0111 AZ SAMPLE TYPE CODES Laboratory Authorization S=Soll/Solid T=Travel Blank F=Food DW≈Drinking Water Required for Rush WW#Wastewate A Standard 15-20 Working Days for Ill others G=Słudge/Biosolids SW=Surface Water Sample Type Domer Rush for Arsen Generous Grab Date Sample Location/POE/DWR Time Client's Blank X X 01 Travel Blank (Do Not Open) X DI 02 3 01 21,775 10/14/2 23:00 HAMP Well # 3 10/21/1 94 WEEKEND/HOLIDAY SAMP TO ENSURE COMPLETION OF ANALYSIS, SAMPLES MUST BE RECEIVED AT LEAST 3 HOURS PRIOR TO THE HOLD TIME EXF *Metals= \$b, As, Ba, Be, Gd, Cr, Ce, Pb, Hg, Nr, Se, Na, Tr **Langlier lodex= Ca, Alkalinity, TDS, pH - ***Total Hardness≕ Ca, Mg Comments / Special Instructions: If sample source is chlorinated, different sample containers/preservatives must be used for dechlorination. List of tests inquirely accompanies Coc Donking water Standard's RELINDUISHED BY SAMPLES RECEIVED'BY SAMPLE CONDITION UPON RECEIPT (Lab Use) No. of Containers 34 Sampler Signature Sherry Frity Temperature Sampler Printed Name SMCRAY ine 3 3 Signature Marian Milysus Signature
Printed Name
Signature
Mana E
Publication
Signature Custody Seals °°40-19-13 ato 10/19/13 2 7 Seals Intact 68:56 m0852 Preserved N 10/19/13 Wi3 Printed Name MANUONE ON MAN W Time 1113 OK to run post hold, split @ 1000 Sor YOU FORM GEN-170 (05/06)

ED_005149_00023120-00012